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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,779	09/13/2000	Takashi Yanagisawa	PM271727	1834

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EXAMINER
MEINECKE DIAZ, SUSANNA M

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/600,779	YANAGISAWA ET AL.	
	Examiner	Art Unit	
	Susanna M. Diaz	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *46-73 and 75-92* is/are pending in the application.

4a) Of the above claim(s) *52-66 and 75-92* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *46-51 and 67-73* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 February 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *19 February 2003* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *17 & 2*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This Final Office action is responsive to Applicant's amendment filed February 19, 2003.

Claims 46, 48, 50, 67, 68, and 70-72 have been amended.

Claim 74 has been cancelled.

Claims 52-66 and 75-92 stand as non-elected claims and are therefore withdrawn from consideration.

Claims 46-51 and 67-73 are presented for examination.

2. The previously pending objection to the abstract is withdrawn in response to Applicant's amendment to the abstract.

The previously pending drawing objections are withdrawn in response to Applicant's submission of proposed drawing corrections, which have been approved. Applicant's submission of new drawings has been approved as well.

The previously pending rejections under 35 U.S.C. 112, 2nd paragraph, are withdrawn in response to Applicant's amendment of the claims.

Applicant has submitted a marked-up copy of the substitute specification; however, Applicant must also submit a clean copy since extensive amendments have been made to the specification (see 37 CFR § 1.125). Upon submission of the clean copy of the substitute specification, all remaining objections to the specification will likely be withdrawn.

Response to Arguments

3. Applicant's arguments filed February 19, 2003 have been fully considered but they are not persuasive.

Applicant argues that, as per claims 46 and 50, Widl "does not teach or suggest that the device receives the toll data and that charge information is generated by using the received toll data" (page 23 of Applicant's Response). The Examiner respectfully disagrees for the reasons set forth in more detail in the art rejection below.

Applicant argues that, as per claims 67 and 70, Widl does not teach or suggest "transmitting means that transmit the charge history of the charge information generated by the making means to a ground station" (page 23 of Applicant's Response). The Examiner addresses these claim limitations in the revised art rejection below. Please note that claims 67 and 70 have been amended to overcome previously pending rejections under 35 U.S.C. 112, 2nd paragraph. Applicant's amendment has clarified the respective claim language, thereby narrowing the scope of claims 67 and 70 over the Examiner's previous interpretation of said claims in light of the rejections under 35 U.S.C. 112, 2nd paragraph.

Applicant argues that, as per claim 72, Widl does not teach "storage means capable of being inserted and removed for storing a predetermined area in which a charge is applied which area is set based on predetermined map information in correspondence with a predetermined area in the map information, the storage means being a toll card, for example, an IC card or a prepaid card" (pages 23-24 of Applicant's

Response). The Examiner respectfully disagrees for the reasons set forth in more detail in the art rejection below.

Specification

4. The disclosure is objected to because it contains several tables for which the entire text is written vertically. Tables are allowed in the specification as long as they conform to the proper format of the specification. In this case, however, the following tables appear more to be drawings and should therefore either be adjusted so that the entire text is written horizontally, be deleted from the specification and incorporated as drawings, or be deleted entirely from the application (see 37 C.F.R. § 1.58(a)):

Page 94, Table 3

Page 102, Table 5

Page 138, Table 6

Page 178, Table 9

Page 190, Table 11

Page 212, Table 13

Page 213, Table 14

Page 214, Table 15

Page 238, Table 17

Page 239, Table 18

Page 240, Table 19

Page 249, Table 20

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 46-50 and 72-73 are rejected under 35 U.S.C. 102(e) as being anticipated by Widl (U.S. Patent No. 5,721,678).

Widl discloses a charge processing device comprising:

[Claim 46] detecting means for detecting position information indicating a position where a moving body is located (col. 3, lines 14-50);

receiving means for receiving toll data relating to the area where a charge is applied (col. 3, line 66 through col. 4, line 17 -- The mobile storage medium receives vehicle location data, which is an example of "toll data relating to the area where a charge is applied," as the vehicle travels in and out of toll areas; col. 4, line 57 through

col. 5, line 13 -- The mobile storage medium reads, or receives, toll information from highway toll cards which store the respective rate of each toll area);

matching means for matching the position information with predetermined map information (col. 3, lines 51-65; col. 4, lines 21-46 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones);

setting means for, based on the map information, setting an area where a charge is applied which area corresponds to a predetermined area in the map information (col. 3, lines 51-65; col. 4, lines 21-67 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones);

deciding means for, based on a result of a matching by the matching means, deciding an entry state indicating whether or not the moving body has at least entered into the area where a charge is applied (col. 3, lines 51-65; col. 4, lines 21-46 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones); and

generating means for generating, based on a result of a deciding by the deciding means, charge information for the moving body, by using the received toll data (col. 3, line 66 through col. 4, line 17 -- The mobile storage medium receives vehicle location

data, which is an example of "toll data relating to the area where a charge is applied," as the vehicle travels in and out of toll areas; col. 4, lines 21-67; col. 4, line 57 through col. 5, line 13 -- The mobile storage medium reads, or receives, toll information from highway toll cards which store the respective rate of each toll area);

[Claim 47] the charge processing device further comprising location information detecting means for detecting, based on the position information, location information indicating date and time the moving body is located in the area in which a charge is applied, wherein the deciding means decides, based on the result of the matching by the matching means and a result of a detection by the location information detecting means, the entry state including a location state of the moving body within the area in which a charge is applied (col. 4, lines 21-67; col. 5, lines 25-34 – The toll charge may be based on a season or time of day during which travel occurs, thereby indicating date and time the moving body is located in the charge area);

[Claim 48] wherein the generating means decides the entry state including a congestion state caused by moving bodies located in the area in which a charge is applied (col. 5, lines 30-34 – "For instance, a sensible variant would be to apply lower rates for individual sections of road or for the entire highway system during off-peak traffic times...in order to reduce traffic at peak periods by a suitable shifting of traffic");

[Claim 49] wherein the generating means is further provided with storage means in which predetermined toll data corresponding to the entry state is stored in advance, and the generating means generates the charge information using the toll data in the storage means (col. 3, lines 51-56; col. 4, line 57 through col. 5, line 24 – Toll rates

specific to each vehicle can be stored in advance in the vehicle's mobile storage medium).

Widl discloses a charge processing device comprising:

[Claim 50] host position detecting means for detecting a position of a host moving body (col. 3, lines 14-50);

transceiving means for, by wireless communication, transmitting position information of the host moving body to a ground station, and for receiving toll data relating to an area where a charge is applied which area is set based on predetermined map information in correspondence with a predetermined area in the map information (col. 3, lines 14-65; col. 4, lines 21-46 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones. Location of the vehicle is determined by using a satellite navigation system to measure how long it takes to propagate a signal from a toll system stored on the vehicle to "neighboring ground stations"; col. 3, line 66 through col. 4, line 17 -- The mobile storage medium, which is a part of the toll system stored on the vehicle, receives vehicle location data, which is an example of "toll data relating to the area where a charge is applied," as the vehicle travels in and out of toll areas; col. 4, line 57 through col. 5, line 13 -- The mobile storage medium reads, or receives, toll information from highway toll cards which store the respective rate of each toll area. As a whole, the toll system stored on the vehicle serves as "transceiving means for, by wireless

communication, transmitting position information of the host moving body to a ground station" as well as "transceiving means for receiving toll data relating to an area where a charge is applied..."); and

charge processing means for performing charge processing relating to the area in which a charge is applied, at a predetermined period and based on a result of a transmission and reception by the transceiving means (col. 3, lines 14-65; col. 4, lines 21-46 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones), wherein

the host position detecting means, the transceiving means, and the charge processing means are able to be mounted on a moving body (col. 3, lines 51-56; col. 4, lines 57-60).

Widl discloses a charge processing device comprising:

[Claim 72] detecting means for detecting position information indicating a position where a moving body is located (col. 3, lines 14-50);

a toll card capable of being inserted and removed for storing a predetermined area in which a charge is applied which area is set based on predetermined map information in correspondence with a predetermined area in the map information (Fig. 2; col. 3, lines 51-65; col. 4, lines 21-67 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed

toll zones. The billing system is carried onboard the vehicle as part of a mobile unit and can therefore be removed from or placed in the vehicle. Further, different toll cards can be used for different charging rates, e.g., based on the vehicle type (col. 4, lines 57-67). The toll cards are issued "for use of determined regions or routes" and they are used to assess different sets of charges based on the vehicle type and respective rate due in each toll area. Therefore, it is understood that each toll card stores data corresponding to a "predetermined area in which a charge is applied which area is set based on predetermined map information in correspondence with a predetermined area in the map information"); and

generating means for, at a predetermined period, generating charge information for the moving body based on a result of a detection by the detecting means and the area in which a charge is applied stored in the loaded storage means (col. 4, lines 18-67; col. 6, lines 6-9);

[Claim 73] wherein the generating means is provided with a reading means for reading a result of a detection by the detecting means and the area in which a charge is applied stored in the storage means, and generates charge information from the read position information and the area in which a charge is applied (col. 4, lines 18-67; col. 6, lines 6-9).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 51 and 67-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widl (U.S. Patent No. 5,721,678), as applied to claim 50 above (for claim 51).

[Claim 51] Widl discloses the use of a rechargeable "highway toll card" for making toll payments (col. 4, line 47 through col. 5, line 24), yet Widl fails to explicitly teach the use of an IC card for making toll payments. However, Official Notice is taken that the use of IC cards to make toll payments is old and well-known in the art of toll processing. IC cards provide for a convenient and secure way of transferring funds, especially in a wireless payment system. Further, IC cards are not as susceptible to damage or fraud as their predecessors, such as magnetic payment cards. Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to utilize an IC card as Widl's "highway toll card" to store a user's balance information in order to provide for a convenient and secure way of storing and transferring funds wirelessly while minimizing susceptibility to damage or fraudulent accounting activity.

Widl discloses a charge processing device comprising:

[Claim 67] detecting means for detecting position information indicating a position where a moving body is located (col. 3, lines 14-50);

matching means for matching predetermined map information and the position information (col. 3, lines 51-65; col. 4, lines 21-46 – Widl's toll system detects when a

vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones);

setting means for, based on the map information, setting an area where a charge is applied which area corresponds to a predetermined area in the map information (col. 3, lines 51-65; col. 4, lines 21-67 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones);

deciding means for, based on a result of a matching by the matching means, deciding an entry state indicating whether or not the moving body has at least entered into the area where a charge is applied (col. 3, lines 51-65; col. 4, lines 21-46 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones); and

making means for, based on a result of a decision by the deciding means, generating charge information for the moving body in the area where a charge is applied, as well as making, at a predetermined period, a charge history of the generated charge information (col. 4, lines 47-67; col. 6, lines 6-9); and

[Claim 68] wherein the making means generates charge information for each of a plurality of existing areas where a charge is applied, and accumulates in sequence the generated charge information as charge history (col. 4, lines 47-67; col. 6, lines 6-9);

[Claim 69] wherein the detecting means detects the position information using satellite signals from satellites (col. 3, lines 14-50).

Regarding claim 67, Widl discloses a logging device used to maintain travel logs that include travel distance and toll charges, when necessary (col. 4, lines 47-67; col. 5, line 65 through col. 6, line 9); however, Widl does not expressly state that this information is transmitted to a ground station *per se*. Widl implies that automatic documentation of this travel log is especially useful for companies, such as transportation companies (col. 6, lines 8-9). Furthermore, Official Notice is taken that it is old and well-known in the art of remote data monitoring to transmit data from monitored devices to a central location or one of various locations that serve as a collection of geographical hubs. This arrangement allows the data from various monitored and remotely located devices, such as vehicles of a transportation company, to be conveniently stored at one or one of several hub locations to facilitate the analysis of the company's operation as a whole. Additionally, such central locations and/or hubs are analogous to a ground station. Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to implement with Widl transmitting means for transmitting Widl's charge history of the charge information generated by the making means to a ground station in order to allow the data from various monitored and remotely located devices, such as vehicles of a transportation company, to be conveniently stored at one or one of several hub locations to facilitate the analysis of the company's operation as a whole.

Widl discloses a charge processing device comprising:

[Claim 70] in-vehicle communication means comprising (Fig. 2; col. 3, lines 8-65):

detecting means for detecting position information indicating a position where a moving body is located (col. 3, lines 14-50);

matching means for matching predetermined map information and the position information (col. 3, lines 51-65; col. 4, lines 21-46 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones);

setting means for, based on the map information, setting an area where a charge is applied which area corresponds to a predetermined area in the map information (col. 3, lines 51-65; col. 4, lines 21-67 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones);

deciding means for, based on a result of a matching by the matching means, deciding an entry state indicating whether or not the moving body has at least entered into the area where a charge is applied (col. 3, lines 51-65; col. 4, lines 21-46 – Widl's toll system detects when a vehicle has entered and exited a fixed toll zone, thereby implying a correlation between the vehicle's position and predetermined toll zone information, i.e., a predetermined mapping of fixed toll zones); and

making means for, based on a result of a decision by the deciding means, generating charge information for the moving body in the area where a charge is applied, as well as making, at a predetermined period, a charge history of the generated charge information (col. 4, lines 47-67; col. 6, lines 6-9); and

wherein the transmission means transmits charge history in accordance with an input transmission request (col. 4, lines 47-67; col. 6, lines 6-9 – There must be some sort of input, e.g., manual or triggered by an electronic communication, to initiate transmission of the charge history, especially since there are various optional modes for charge reporting and billing), and,

on-road communication means having request means for performing the transmission request and processing means for performing charge settlement processing in a predetermined processing area and based on a transmitted charge history (col. 4, lines 47-67; col. 5, lines 1-24; col. 6, lines 6-9);

[Claim 71] wherein the on-line road communication means is further provided with altering means for altering the amount of charge settlement based on a duration of time until an arrival in the processing area (col. 5, lines 25-28 -- Charging a toll based on a duration of time until an arrival in a processing area is effectively equivalent to charging a user for "duration of travel within a toll zone").

Regarding claim 70, Widl discloses a logging device used to maintain travel logs that include travel distance and toll charges, when necessary (col. 4, lines 47-67; col. 5, line 65 through col. 6, line 9); however, Widl does not expressly state that this

information is transmitted to a ground station *per se*. Widl implies that automatic documentation of this travel log is especially useful for companies, such as transportation companies (col. 6, lines 8-9). Furthermore, Official Notice is taken that it is old and well-known in the art of remote data monitoring to transmit data from monitored devices to a central location or one of various locations that serve as a collection of geographical hubs. This arrangement allows the data from various monitored and remotely located devices, such as vehicles of a transportation company, to be conveniently stored at one or one of several hub locations to facilitate the analysis of the company's operation as a whole. Additionally, such central locations and/or hubs are analogous to a ground station. Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to implement with Widl transmitting means for transmitting Widl's charge history of the charge information generated by the making means to a ground station in order to allow the data from various monitored and remotely located devices, such as vehicles of a transportation company, to be conveniently stored at one or one of several hub locations to facilitate the analysis of the company's operation as a whole.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (703) 305-1337. The examiner can normally be reached on Monday-Friday, 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703)308-1113.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington D.C. 20231

or faxed to:

(703)305-7687 [Official communications; including After Final communications labeled "Box AF"]

(703)746-7048 [Informal/Draft communications, labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 22202, 7th floor receptionist.

SMD

Susanna M. Diaz
Patent Examiner
Art Unit 3623
March 17, 2003

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